Remarks:

In response to Examiner's objection concerning the original numbering of the claims, Applicant amends claims 1-20 with this paper to provide proper numbering. Also, the word "and" is added to the end of the next-to-last elements of claims 1, 12, and 17.

Applicant's claims 1-20 stand rejected under 35 USC 103(a) as "being unpatentable over Treister (US2002/0116460) or Gan et al (7,027,418)."

Applicant respectfully notes that the use of the conjunction "or" in a 103(a) rejection seems to be unclear. If these references are to be combined, Applicant respectfully notes that Examiner has provided no teaching or motivation for their combination, has not provided any explanation of which elements from which reference would be selected for the combination, and has not shown how the selected elements would correspond to each and all elements of Applicant's invention.

Moreover, Applicant respectfully holds that Examiner has not established a proper *prima facie* case for rejection under any application of the references mentioned above, for at least the following additional reasons.

Applicant's invention concerns mitigating the effects of interference in frequency-hopping data communication. In the operation of such according to the invention, channels are scanned for interference, and channels experiencing interference are identified. Data is then transmitted normally on the channels that are not experiencing interference, and only null packets are transmitted on the channels that are experiencing interference. All of the scanned channels are thus visited by a transmitter and receiver that operate according to Applicant's invention, whether they are experiencing interference or not.

Examiner explicitly notes that Treister does not teach transmitting only null packets when hopping to a channel identified as experiencing interference. Rather than cite any reference that teaches this element of Applicant's invention, however, Examiner abruptly concludes that it

would be obvious to transmit null packets when hopping to a channel experiencing interference, "since the device of Treister knows that only null packets were transmitted on those channels."

Applicant respectfully holds that Examiner's reasoning is incorrect. Treister's device does not transmit only null packets on channels experiencing interference. How then could Treister's device know that only null packets are transmitted on channels experiencing interference, when, in fact, according to Treister, they are not being transmitted on these channels? Implicitly according to the cited reference, Treister simply did not think of doing this. Moreover, Applicant respectfully holds that there is absolutely no teaching or suggestion in either Treister or Gan to transmit null packets when hopping to channels experiencing interference, and that the only such teaching is Applicant's own invention.

As in Treister, and in contrast to Applicant's invention, Gan teaches determining which channels are experiencing interference and which are not, and transmitting only on the channels that are free of interference. Gan adaptively avoids transmitting on channels that experience interference (see abstract), whereas Applicant's invention transmits (only) null packets on these channels.

Applicant again respectfully notes that there is no hint, suggestion, or teaching in Gan or Treister to transmit only null packets on channels that have been determined to be experiencing interference, in order to mitigate the effects of the interference. ***This is not a trivial distinction.*** Unlike Gan and Treister, Applicant's invention provides an advantage over Treister or Gan in that the list of channels visited by the frequency hopping transmitter does not need to vary in response to the occurrence of interference on any of these channels. Thus, in terms of the standard seven-layer data communication protocol model, Applicant's invention moves the interference mitigation mechanism out of the physical layer and into the data-link-control (DLC) layer, where it can be addressed by software or microcode. Thus, a transmitter and receiver that operate according to Applicant's invention operate quite differently than a transmitter and receiver according to Gan or Treister.

Another benefit is that Applicant's invention enables simplified hardware design for a transmitter and receiver, which hop to the same channels whether interference is present or not. This

simplification is unavailable to either Gan or Treister, alone or combined. Thus, neither Gan nor Treister can provide these advantages of Applicant's invention.

In summary, Applicant respectfully holds that Gan and Treister, alone or in combination, neither teach nor suggest the transmission of only null packets on channels experiencing interference, to mitigate the effects of interference over channels that have been determined to be experiencing interference. Thus Applicant respectfully holds that these references, either alone or combined, cannot support a proper rejection of Applicant's claims.

Consequently, Applicant believes that claims 1- 20 are allowable for the reasons given above, and respectfully asks the Examiner to reconsider the rejections and allow these claims. Applicant sincerely thanks Examiner, and requests that the application now pass to issue.

Respectfully submitted,

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